

CLAIMS

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1. A sensor, for radiance based diagnostics, comprising
a performing component and an adhering component
said performing component comprising at least one radiance
source for radiating a tissue and at least one detector for detecting
rays emitted from said radiance source, and
said adhering component being capable of fastening the
performing component to a tissue such that the radiance source and
detector are facing and contiguous with the tissue,
wherein, when operative, the adhering component fastens the
performing component to the tissue to the extent that the detector
receives only rays which are transmitted through or reflected from the
tissue.
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2. A sensor according to claim 1 wherein the adhering component is a tape
of adhering material framing the performing component and which, when
fastening the performing component to the tissue, contacts the tissue.
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3. A sensor according to claim 1 wherein the adhering component is a tape
which, when fastening the performing component to the tissue, overlays
the performing component and contacts the tissue.
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4. A sensor according to claim 1 wherein the adhering component is formed
as part of the performing component and contacts both the performing

component and the tissue.

5. A sensor according to claim 1 wherein the performing component further comprises a partition in between the radiance source and the detector.

6. A sensor according to claim 5 wherein the partition further surrounds
5 either radiance source or detector or both.

7. A sensor according to claim 1 wherein the performing component has a performing component surface which faces the tissue, and the adhering component has an adhering component surface which faces the tissue and wherein the performing component surface protrudes from the plane
10 of the adhering component surface in the direction of the tissue.

8. A sensor according to claim 7 wherein the performing component further comprises a partition in between the radiance source and the detector.

9. A sensor according to claim 8 wherein the partition further surrounds
15 either radiance source or detector or both.

10. A sensor according to claim 1 further comprising a controlling device capable of sensing and responding to external conditions and capable of controlling sensor components operation.

11. A sensor according to claim 10 wherein the controlling device is a pressure or proximity detector which enables sensor operation when the
20 performing component is fastened to the tissue to the extent that the detector receives only rays which are transmitted through or reflected

from the tissue.

12. A sensor according to claim 7 further comprising a controlling device capable of sensing and responding to external conditions and capable of controlling the sensor components operation.

- 5 *Ad aq* 13. A system for radiance based diagnostics comprising a sensor and an electronic circuit that is in communication with the sensor components and is capable of controlling the sensor components operation wherein the sensor comprises a performing component and an adhering component

10 said performing component comprising at least one radiance source for radiating a tissue and at least one detector for detecting rays emitted from said radiance source, and

15 said adhering component being capable of fastening the performing component to a tissue such that the radiance source and detector are facing and contiguous with the tissue,

wherein, the adhering component fastens the performing component to the tissue to the extent that the detector receives only rays which are transmitted through or reflected from the tissue.

- 20 14. A system according to claim 13 wherein the electronic circuit is in communication with and is capable of controlling the operation of either radiance source or detector or both.

15. A system according to claim 13 wherein the adhering component is a

tape of adhering material framing the performing component and which, when fastening the performing component to the tissue, contacts the tissue.

16. A system according to claim 13 wherein the adhering component is a
5 tape which, when fastening the performing component to the tissue, overlays the performing component and contacts the tissue.

17. A system according to claim 13 wherein the performing component further comprises a partition in between the radiance source and the
10 detector.

18. A system according to claim 17 wherein the partition further surrounds
15 either radiance source or detector or both.

19. A system according to claim 13 wherein the performing component has a performing component surface which faces the tissue, and the adhering component has an adhering component surface which faces the tissue and wherein the performing component surface protrudes from the plane
20 of the adhering component surface in the direction of the tissue.

20. A system according to claim 17 wherein the performing component further comprises a partition in between the radiance source and the
25 detector.

21. A system according to claim 20 wherein the partition further surrounds
30 either radiance source or detector or both.

22. A system according to claim 13 wherein the sensor further comprises a controlling device capable of sensing and responding to external conditions and which controlling device is capable of being in communication with sensor components, electronic circuit or both.

5 23. A system according to claim 22 wherein the electronic circuit controls the sensor component's operation.

24. A system according to claim 22 wherein the controlling device is a pressure or proximity detector which enables sensor components operation when the performing component is fastened to the tissue to the extent that the detector receives only rays which are transmitted through or reflected from the tissue.

10 25. A system according to claim 22 wherein the controlling device is a pressure or proximity detector which communicates with the electronic circuit to enable sensor components operation when the performing component is fastened to the tissue to the extent that the detector receives only rays which are transmitted through or reflected from the tissue.

15 26. A system according to claim 22 wherein the electronic circuit is programmed to operate in accordance with specific conditions communicated by the controlling device.

20 27. A method for radiance based analysis of body tissues comprising the

steps of

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fastening to the body tissue a sensor according to claim 1;
operating the sensor; and
obtaining data from the sensor.

5 28. A method for radiance based analysis of body tissues comprising the steps of

fastening to the body tissue a system according to claim 13;
operating the system; and
obtaining data from the system.

10 29. Use of a sensor according to claim 1 in radiance based analysis of body tissues.

30. Use according to claim 29 wherein the radiance based analysis is reflective pulse oximetry .

31. Use of a system according with claim 13 in radiance based analysis of body tissues.

15 32. Use according to claim 31 wherein the radiance based analysis is reflective pulse oximetry.